

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. **(PREVIOUSLY PRESENTED)** A method of transforming an *Allium* genus plant comprising the following steps:
 - (a) transforming embryo cells of the *Allium* genus plant with DNA sequences via a vector or direct gene transfer to produce transformed plant material, wherein transformation is achieved by:
 - (i) wounding the embryo cells and transferring embryo cells into a suspension of *Agrobacterium*,
 - (ii) transferring the embryo cells from step (i) to a culture medium;
 - (iii) co-cultivating the embryo cells and the *Agrobacterium* attached to the embryo cells for a period of 1-12 days from the end of step (ii);
 - (b) selecting the transformed plant material derived from step (a), by transferring the embryo cells to a selection medium containing the appropriate selection agents to kill the agrobacteria and preferentially grow the transgenic embryo cells to produce transformed plant material;
 - (c) culturing the transformed plant material from (b) to produce secondary embryos and regenerating transformed plant material from the secondary embryos; and
 - (d) obtaining a transformed *Allium* genus plant from the secondary embryo; wherein the method of transforming is carried out without a passage through a callus phase.

2. **(PREVIOUSLY PRESENTED)** The method according to claim 1 wherein the *Allium* genus plant is transformed by co-cultivation of *Allium* tissue with a strain of *Agrobacterium* containing a plasmid with a functional T-DNA region that is capable of transfer to plant cells.

3. **(PREVIOUSLY PRESENTED)** The method according to claim 1 or 2 in which the *Allium* genus plant is onion.

4. **(PREVIOUSLY PRESENTED)** The method according to claim 1 or 2 wherein the embryo cells are transformed using a binary vector.

5. **(PREVIOUSLY PRESENTED)** The method according to claim 1 in which the embryo cells are inoculated with an *Agrobacterium* strain containing a T-DNA active for transformation.

6. **(PREVIOUSLY PRESENTED)** The method according to claim 1 or 2 in which immature embryos are used.

7. **(CURRENTLY AMENDED)** A method of transforming an *Allium* genus plant using immature embryos as an explant source, comprising:

- (a) isolating immature embryos of the *Allium* genus plant to be transformed;

(b) transforming the immature embryos by inoculating the immature embryos with an *Agrobacterium* strain and wounding the immature embryos in a culture medium, wherein transformation is achieved by:

(i) wounding the embryo cells and transferring the embryo cells into a preparation of *Agrobacterium*,

(ii) transferring the embryo cells from step (i) to solid medium, and

(iii) co-cultivating the embryo cells and the *Agrobacterium* attached to the embryo cells for 1-12 days from the end of step (ii);

(c) transferring the immature embryos to a selective medium of P5 medium plus 10 mg/l geneticin and 200 mg/l timentin or 5 mg/l Basta and 200 mg/l timentin, or other appropriate selective agent to kill the agrobacteria and preferentially select the transgenic *Allium* cells;

(d) culturing the immature embryos in the dark to produce secondary embryos;

(e) selecting transgenic cultures of ~~transgenic-Allium cells from step (c)~~ by preferential growth of the ~~transgenic cells~~ secondary embryos;

(f) regenerating plants from the transgenic cultures; and

(g) producing a transformed *Allium* genus plant.

8. **(PREVIOUSLY PRESENTED)** The method according to claim 1 wherein the plant is transformed with an *Agrobacterium tumefaciens* strain containing a vector which carries a selectable DNA of interest.

9. **(PREVIOUSLY PRESENTED)** The method according to claim 8 in which the selectable DNA of interest confers herbicide resistance to the transformed plant.

10. **(PREVIOUSLY PRESENTED)** The method according to claim 9 in which the DNA conferring herbicide resistance encodes bar resistance or glyphosate resistance.

11. **(PREVIOUSLY PRESENTED)** The method according to claim 8 in which the selectable DNA encodes an antibiotic resistance DNA.

12. **(PREVIOUSLY PRESENTED)** The method according to claim 11 in which the antibiotic resistance encodes *nptII*.

13-15. **(CANCELED)**

16. **(NEW)** A method of transforming an *Allium cepa* plant comprising the following steps:

(a) transforming embryo cells of the *Allium* plant with DNA sequences via a vector or direct gene transfer to produce transformed plant material, wherein transformation is achieved by:

(i) wounding the embryo cells and transferring embryo cells into a suspension of *Agrobacterium*,

- (ii) transferring the embryo cells from step (i) to a culture medium;
- (iii) co-cultivating the embryo cells and the *Agrobacterium* attached to the embryo cells for a period of 1-12 days from the end of step (ii);
- (b) selecting the transformed plant material derived from step (a), by transferring the embryo cells to a selection medium containing the appropriate selection agents to kill the agrobacteria and preferentially grow the transgenic embryo cells to produce transformed plant material;
- (c) culturing the transformed plant material from (b) to produce secondary embryos and regenerating transformed plant material from the secondary embryos; and
- (d) obtaining a transformed *Allium* plant from the secondary embryo;

wherein the method of transforming is carried out without a passage through a callus phase.

17. (NEW) A method of transforming an *Allium cepa* plant comprising the following steps:

- (a) transforming embryo cells of the *Allium* plant with DNA sequences via a vector or direct gene transfer to produce transformed plant material, wherein transformation is achieved by:
 - (i) wounding the embryo cells and transferring embryo cells into a suspension of *Agrobacterium* containing a plasmid with a functional T-DNA region that is capable of transfer to plant cells,
 - (ii) transferring the embryo cells from step (i) to a culture medium;

- (iii) co-cultivating the embryo cells and the *Agrobacterium* attached to the embryo cells for a period of 1-12 days from the end of step (ii);
 - (b) selecting the transformed plant material derived from step (a), by transferring the embryo cells to a selection medium containing the appropriate selection agents to kill the agrobacteria and preferentially grow the transgenic embryo cells to produce transformed plant material;
 - (c) culturing the transformed plant material from (b) to produce secondary embryos and regenerating transformed plant material from the secondary embryos; and
 - (d) obtaining a transformed *Allium* plant from the secondary embryo;
- wherein the method of transforming is carried out without a passage through a callus phase.